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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,998	11/26/2003	Daniel Mulligan	SIG000111	6604
34399	7590	01/24/2006	EXAMINER	
GARLICK HARRISON & MARKISON LLP			BRADLEY, MATTHEW A	
P.O. BOX 160727			ART UNIT	
AUSTIN, TX 78716-0727			PAPER NUMBER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/722,998

Applicant(s)

MULLIGAN, DANIEL

Examiner

Matthew Bradley

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Objections***

Claim 5 is objected to because of the following informalities: Claim 5 discloses (DMA) as 'digital memory access.' DMA generally, as known by one of ordinary skill in the art, stands for direct memory access. However, the Examiner is interpreting DMA to be access to digital memory as claimed.

Claim 8 is objected to because of the following informalities: Claim 8 as currently written ends with a semicolon. The Examiner interprets the semicolon to have been a period and requests appropriate correction.

Claim 8 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. The Examiner notes that claim 7 discloses an initialization process whilst claim 8 discloses detecting activation. Both initialization and activation as written and broadly claimed are interpreted to mean the same. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Chrisop et al (U.S. Patent Application Publication 2003/ 0043638) herein after referred to as Chrisop.

As independent claim 1, Chrisop teach,

- determining mode of operation of the multiple function integrated circuit;  
(Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identifying at least one active module of a plurality of modules of the multiple function integrated circuit requiring a buffer based on the mode of operation; (Paragraph 0023) *The Examiner notes that as discussed supra, the system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that requires memory to operate.*
- determining buffer requirements for the at least one active module; and  
(Paragraph 0029)
- allocating memory space of the shared memory for the buffer to be used by the at least one active module (Paragraph 0025).

As per dependent claim 2, Chrisop teach, wherein the at least one active module comprises at least two of: a processing unit; universal serial bus (USB) device; digital to analog converter (DAC); and analog to digital converter (ADC) (Paragraph 0029). *The*

*Examiner notes that, for example, the fax machine can be the device selected as the active module. This being the case, the fax machine contains a processing unit inside of it in addition to both a digital to analog converter that converts documents before sending over an analog communication medium as well as an analog to digital converter that converts incoming analog transmissions to digital documents. The same applies for a scanner and or a copier but the DAC and ADC have different inputs and outputs and outputs.*

As per dependent claim 3, Chrisop teach, wherein the mode of operation comprises at least one mode of operation selected from the group comprising: a digital audio player mode; a file storage device mode; a digital multimedia player mode; an extended memory device mode; a digital audio recorder mode; a digital multimedia recorder mode; and a personal data assistant (Paragraph 0023). *The Examiner notes that as taught by Chrisop, the "RAM is allocated to the temporary storage of documents." Accordingly the system of Chrisop is acting as a file storage device.*

As per dependent claim 4, Chrisop teach,

- changing the mode of operation of the multiple function integrated circuit to a second mode of operation; (Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identifying at least one other active module of the plurality of modules requiring another buffer based on the second mode of operation; (Paragraph 0023) *The Examiner notes that as discussed supra, the*

*system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that requires memory to operate. As taught in Paragraph 0029 of Chrisop, the system is able to allocate multiple areas of the RAM to different functions of the system.*

- determining buffer requirements for the at least one other active module; and (Paragraph 0029)
- allocating memory space of the shared memory for the another buffer to be used by the at least one active module (Paragraph 0025).

As per dependent claim 5, Chrisop teach, wherein the at least one active module has digital memory access (DMA) to the shared memory (Paragraph 0023). *The Examiner notes that the MFP system of Christop has access to digital RAM.*

As per dependent claim 6, Chrisop teach, wherein the shared memory comprises on-chip random access memory (Paragraph 0029). *The Examiner notes that the RAM is shown as on-chip RAM in figure 1 item 106.*

As per independent claim 7, Chrisop teach,

- determining a first mode of operation of the multiple function integrated circuit; (Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identifying at least one active module of a plurality of modules of the multiple function integrated circuit requiring a buffer based on the first

mode of operation; (Paragraph 0023) *The Examiner notes that as discussed supra, the system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that requires memory to operate.*

- determining buffer requirements for the at least one active module; and (Paragraph 0029)
- allocating memory space of the shared memory for a buffer to be used by the at least one active module (Paragraph 0025).

As per dependent claim 8, Chrisop teach, detecting activation of the multiple function integrated circuit; (Paragraph 0023).

As per dependent claim 9, Chrisop teach,

- detecting a change from the first mode of operation of the multiple function integrated circuit to a second mode of operation; (Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identifying at least one active module of the plurality of modules of the multiple function integrated circuit requiring a buffer based on the second mode of operation; (Paragraph 0023) *The Examiner notes that as discussed supra, the system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that*



*requires memory to operate. As taught in Paragraph 0029 of Chrisop, the system is able to allocate multiple areas of the RAM to different functions of the system.*

- determining buffer requirements for the at least one active module; and (Paragraph 0029)
- allocating memory space of the shared memory for a buffer to be used by the at least one active module module (Paragraph 0025).

As per dependent claim **10**, Chrisop teach, wherein the at least one active module comprises: a processing unit; universal serial bus (USB) device; digital to analog converter (DAC); and analog to digital converter (ADC) (Paragraph 0029). *The Examiner notes that, for example, the fax machine can be the device selected as the active module. This being the case, the fax machine contains a processing unit inside of it in addition to both a digital to analog converter that converts documents before sending over an analog communication medium as well as an analog to digital converter that converts incoming analog transmissions to digital documents. The same applies for a scanner and or a copier but the DAC and ADC have different inputs and outputs.*

As per dependent claim **11**, Chrisop teach, wherein the first mode of operation and second mode of operation comprise at least one mode of operation selected from: a digital audio player mode; a file storage device mode; a digital multimedia player mode; an extended memory device mode; a digital audio recorder mode; a digital multimedia recorder mode; and a personal data assistant (Paragraph 0023). *The*

*Examiner notes that as taught by Chrisop, the "RAM is allocated to the temporary storage of documents." Accordingly the system of Chrisop is acting as a file storage device.*

As per dependent claim **12**, Chrisop teach, wherein the at least one active module has digital memory access (DMA) to the shared memory (Paragraph 0023). *The Examiner notes that the MFP system of Christop has access to digital RAM.*

As per dependent claim **13**, Chrisop teach, wherein the shared memory comprises on-chip random access memory (Paragraph 0029). *The Examiner notes that the RAM is shown as on-chip RAM in figure 1 item 106.*

As per independent claim **14**, Chrisop teach,

- processing module; and (Figure 1 - allocator)
- memory operably coupled to the processing module, wherein at least portion of the memory functions as the shared memory and wherein the memory stores operational instructions that cause the processing module to: detect activation of the multiple function integrated circuit; (Figure 1 item 106)
- determine a first mode of operation of the multiple function integrated circuit; (Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identify the at least one active modules of the multiple function integrated circuit requiring a buffer based on the first mode of operation; (Paragraph

0023) *The Examiner notes that as discussed supra, the system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that requires memory to operate.*

- determine buffer requirements for the at least one identified active module; and (Paragraph 0029)
- allocate memory space within the RAM for a buffer to be used by the at least one active module. (Paragraph 0025).

As per dependent claim **15**, Chrisop teach,

- detect a change from the first mode of operation of the multiple function integrated circuit to a second mode of operation; (Paragraph 0023) *The Examiner notes that the system allocates RAM in response to prompts that correspond to a selected operation within the system.*
- identify at least one active module of the plurality of modules of the multiple function integrated circuit requiring a buffer based on the second mode of operation; (Paragraph 0023) *The Examiner notes that as discussed supra, the system allocates memory for a specific device within the multifunction peripheral device. Accordingly, the system of Chrisop identifies an active module from the multifunction peripheral device that requires memory to operate. As taught in Paragraph 0029 of Chrisop, the system is able to allocate multiple areas of the RAM to different functions of the system.*

- determine buffer requirements for the at least one active module; and  
(Paragraph 0029)
- allocate memory space of the shared memory for a buffer to be used by  
the at least one active module (Paragraph 0025).

As per dependent claim **16**, Chrisop teach, wherein the at least one active module further comprises at least one of: universal serial bus (USB) device; a flash memory device; an electronically programmable read only memory (EPROM) device; a multi-wire device; a hard drive device; digital to analog converter (DAC); and analog to digital converter (ADC) (Paragraph 0024). *The Examiner incorporates by reference herein the comments made supra with respect to claim 1 and the fax machine.*

As per dependent claim **17**, Chrisop teach, wherein the first mode of operation and second mode of operation comprise at least one mode of operation selected from: a digital audio player mode; a file storage device mode; a digital multimedia player mode; an extended memory device mode; a digital audio recorder mode; a digital multimedia recorder mode; and a personal data assistant (Paragraph 0023). *The Examiner notes that as taught by Chrisop, the "RAM is allocated to the temporary storage of documents." Accordingly the system of Chrisop is acting as a file storage device.*

As per dependent claim **18**, Chrisop teach, wherein the at least one active module has digital memory access (DMA) to the shared memory (Paragraph 0023). *The Examiner notes that the MFP system of Christop has access to digital RAM.*

As per dependent claim **19**, Chrisop teach, wherein the processing module determines the first mode of operation from initialization inputs to the multiple function integrated circuit, wherein the initialization inputs identify active modules operable coupled to the multiple function integrated circuit (Paragraph 0023-0025). *The Examiner incorporates by reference herein the comments made supra with respect to claim 1.*

As per dependent claim **20**, Chrisop teach, wherein the active modules include at least one of: universal serial bus (USB) device; a flash memory device; an electronically programmable read only memory (EPROM) device; a multi-wire device; a hard drive device; digital to analog converter (DAC); and analog to digital converter (ADC) (Paragraph 0024). *The Examiner incorporates by reference herein the comments made supra with respect to claim 1 and the fax machine.*

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. "Windows XP Professional: What's new in Device and Hardware Support":

The Examiner notes that Microsoft Windows XP is able to allocate memory from within the multiple function integrated circuit (e.g., personal computer) for whatever device is being connected to said multiple function integrated circuit. For example, if a camera is plugged into the system, the system allocates memory for the camera in the form of a folder on the machine. The same can be said for any multimedia device that is connected to the machine. XP also allows

for multiple devices to be connected to the machine thereby further anticipating the claimed instant invention

([www.microsoft.com/technet/prodtechnol/winxppro/evaluate/hwsprtxp.mspx#](http://www.microsoft.com/technet/prodtechnol/winxppro/evaluate/hwsprtxp.mspx#)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAS/mb



**DONALD SPARKS**  
SUPERVISORY PATENT EXAMINER